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CCD MINIMA FOR SELECTED ECLIPSING BINARIES IN 2017

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Observatory and telescope:
Mountain Ash Observatory (MAO): 33 cm f/4.5 Newtonian on a Paramount ME Desert Blooms Observatory (DBO): 40 cm f/6.8 SCT on a Paramount Taurus 400

Detector:	MAO: SBIG ST-10XME, 6.8 μm pixels, FOV: $34.4'' \times 23.2''$, $-10° > T > -30°$C DBO: SBIB STT-1603, 9.0 μm pixels, FOV: $18.3'' \times 11.5''$, $-10° > T > -30°$C

Method of data reduction:
Bias and dark subtraction, flat-fielding using light-box flats; aperture photometry– all using MIRA, by Mirametrics. Check stars were used throughout.

Method of minimum determination:
Digital tracing paper method, bisection of chords, curve fitting, and (occasionally) Kwee and van Woerden (1956)

Times of minima:

Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O-C$ [day]	Rem.
V0404 And	58054.6137	0.0002	I	BVI	−0.0005	DBO
V0404 And	58059.6841	0.0003	II	BVI	−0.0004	DBO
V0404 And	58077.5973	0.0004	I	BVI	−0.0021	DBO
V0404 And	58112.7531	0.0003	I	BVI	−0.0001	MAO
V0523 And	58060.663	0.003	I	c	0.0004	MAO
BO Ari	58098.586	0.0003	I	R	0.0015	MAO
ZZ Aur	57757.62	0.001	II	c	0.0031	MAO
AH Aur	57798.6405	0.0003	II	R	−0.0026	MAO
AP Aur	57763.7197	0.0003	II	c	0.0022	MAO
GX Aur	58109.8143	0.0002	I	c	−0.0014	MAO
HL Aur	58059.8735	0.0002	I	c	0.0029	MAO
V0410 Aur	58056.7662	0.0003	II	c	−0.0031	MAO
V0534 Aur	57798.705	0.002	I	R	0.0008	MAO
V0599 Aur	58066.7971	0.0003	II	c	−0.0017	MAO
AC Boo	57809.966	0.0001	I	R	0.0074	MAO

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O-C$ [day]	Rem.
GM Boo	57817.9666	0.0002	I	c	0.003	MAO
GR Boo	57812.9215	0.0002	I	c	−0.0013	MAO
QT Boo	57807.906	0.003	II	c	−0.0071	MAO
V0339 Boo	57913.69	0.0004	I	c	0.0051	DBO
G0912-0792 Boo	57914.7199	0.0003	I	c	0.0011	DBO
AO Cam	58002.86	0.0004	I	V	−0.0034	DBO
LR Cam	58077.8802	0.0004	I	R	−0.0001	MAO
OQ Cam	58090.7602	0.0002	I	c	0.003	MAO
V0335 Cam	58112.6508	0.0004	I	c	−0.0012	MAO
V0366 Cam	58107.7308	0.0003	I	R	−0.0004	MAO
V0405 Cam	58077.7718	0.0004	I	R	−0.0074	MAO
V0409 Cam	58060.8647	0.0002	I	c	0.0018	MAO
V0473 Cam	58063.8748	0.0002	I	c	−0.0013	MAO
TX Cnc	58110.8031	0.0003	I	R	−0.0047	MAO
IN Cnc	57832.6819	0.0001	I	c	−0.0005	MAO
IR Cnc	58062.9655	0.0004	I	c	−0.0036	MAO
G1928-0943 Cnc	57812.685	0.0001	II	R	−0.0017	MAO
BI CVn	57899.7702	0.0005	I	R	0.0002	DBO
BO CVn	57868.761	0.0008	I	V	−0.0007	MAO
EY CVn	57817.7542	0.0003	I	c	−0.0007	MAO
GN CVn	57836.8082	0.0001	I	c	−0.0015	MAO
BF CMi	58103.8761	0.0003	I	c	0.0063	MAO
CZ CMi	58073.9944	0.0003	I	R	0.0009	DBO
ZZ Cas	57959.869	0.0002	I	c	0.001	MAO
CW Cas	57963.8178	0.0002	II	c	−0.0027	MAO
DZ Cas	58063.6226	0.0006	II	c	0.0016	MAO
V0776 Cas	57966.8398	0.0004	I	V	0.0003	MAO
V0776 Cas	58090.5923	0.0005	I	R	−0.004	MAO
V0961 Cas	58054.6489	0.0002	I	c	0.0005	MAO
G4046-0154 Cas	57756.5942	0.0001	II	c	0.0003	MAO
XX Cep	57928.8497	0.0002	I	R	−0.0008	MAO
V0870 Cep	57909.879	0.0003	I	c	0.0002	MAO
G4500-0730 Cep	58066.6524	0.0002	II	R	0.0006	MAO
G0054-0373 Cet	58113.6432	0.0005	I	c	−0.0015	MAO
V0500 Cyg	57901.9264	0.0002	I	VRI	0.0014	DBO
V0500 Cyg	57908.859	0.0006	II	VRI	0.0024	DBO
V0500 Cyg	57913.9397	0.0004	I	VRI	−0.0002	DBO
V0500 Cyg	57914.8639	0.0009	I	VRI	−0.0002	DBO
V0836 Cyg	57902.8065	0.0005	I	c	−0.0009	MAO
V0859 Cyg	57875.924	0.0001	II	c	0.002	MAO
V0959 Cyg	58056.6486	0.0004	II	c	−0.0048	MAO
V2197 Cyg	57916.8592	0.0002	I	c	−0.001	MAO
V2282 Cyg	57890.7917	0.0002	II	c	−0.0019	MAO
V2477 Cyg	57912.8369	0.0004	II	c	−0.0009	MAO
V2552 Cyg	58050.6835	0.0003	II	BVI	0.0011	DBO
V2552 Cyg	58052.6329	0.0003	I	BVI	0.0009	DBO

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O-C$ [day]	Rem.
V2552 Cyg	58052.7699	0.0005	II	BVI	−0.0014	DBO
V2552 Cyg	58056.6692	0.0002	I	BVI	−0.0012	DBO
Z Dra	57809.8334	0.0003	I	VRI	−0.0045	MAO
RZ Dra	57901.8182	0.0003	II	R	0.0002	MAO
BL Dra	57908.8368	0.0001	I	c	0.0007	MAO
EF Dra	57880.8962	0.0003	I	c	0.0006	MAO
V0349 Dra	57864.7811	0.0001	I	c	−0.0002	MAO
V0388 Dra	57872.8286	0.0002	II	c	0.002	MAO
V0422 Dra	57893.8208	0.0002	I	c	0.0002	MAO
G3897-1017 Dra	57869.7796	0.0002	I	c	−0.0009	MAO
QW Gem	57755.6495	0.0003	I	R	−0.0003	MAO
G1886-1869 Gem	58052.8674	0.0002	II	c	−0.0005	MAO
V0728 Her	57918.6865	0.0002	I	c	−0.0004	MAO
V0829 Her	57876.7968	0.0003	I	c	−0.0029	DBO
V0857 Her	57876.9297	0.0002	II	c	0.0021	DBO
V0921 Her	57900.8203	0.0004	II	V	0.0033	MAO
V1036 Her	57813.0178	0.0001	I	c	0.0003	MAO
V1042 Her	57901.7742	0.0005	II	c	−0.0024	DBO
V1066 Her	57896.9209	0.0005	II	c	0.0013	DBO
V1094 Her	57875.819	0.0008	I	c	0.0003	MAO
V1097 Her	57920.6983	0.0002	II	BVRI	0.0011	DBO
V1097 Her	57920.8779	0.0003	I	BVRI	0.0003	DBO
V1097 Her	57922.6822	0.0002	I	BVRI	0.0003	DBO
V1097 Her	57922.8639	0.0003	II	BVRI	0.0016	DBO
V1100 Her	57826.8836	0.0003	I	c	−0.0005	MAO
V1101 Her	57894.8247	0.0002	I	c	−0.0001	MAO
V1103 Her	57847.7377	0.0004	I	c	−0.033	MAO
V1355 Her	57921.8343	0.0003	I	c	0.0027	MAO
AV Hya	58109.998	0.004	II	BVI	0.0056	DBO
G3621-0711 Lac	57927.8343	0.0004	I	R	0.0051	MAO
AP Leo	57807.8065	0.0003	I	R	0.0009	MAO
CE Leo	57812.8276	0.0001	II	c	−0.0017	MAO
DU Leo	58103.9956	0.0002	I	BVI	0	MAO
XY LMi	58061.0464	0.0002	II	c	−0.0043	MAO
UU Lyn	58064.0352	0.0001	I	c	−0.0004	MAO
BG Lyn	58056.9023	0.0008	I	c	−0.0024	MAO
PV Lyr	57875.8497	0.0005	I	c	−0.0204	DBO
V0591 Lyr	57832.9391	0.0002	II	c	−0.0012	MAO
V0591 Lyr	57895.8722	0.0001	I	c	−0.0009	DBO
G3104-1085 Lyr	57832.9695	0.0005	?	c	0	MAO
G3104-1085 Lyr	57893.8939	0.0007	??	c	0.0014	DBO
G3104-1085 Lyr	57894.758	0.002	??	c	−0.0017	DBO
G3104-1085 Lyr	57895.844	0.0002	??	c	0.0003	DBO
BB Peg	57960.8555	0.0003	I	c	0.0001	MAO
V0534 Peg	57990.7632	0.0003	I	V	0	MAO
IK Per	58111.648	0.0002	I	c	0.0001	MAO

Times of minima:						
Star name	Time of min. HJD 2400000+	Error	Type	Filter	$O-C$ [day]	Rem.
V0882 Per	58053.7838	0.0004	I	c	−0.0001	MAO
CP Psc	58077.6164	0.0003	II	R	0.0003	MAO
G0008-0448 Psc	58099.6042	0.0002	I	c	0	MAO
V0382 Sge	57903.846	0.002	I	c	−0.0014	MAO
G0242-2191 Sex	57806.7662	0.0003	I	c	−0.0002	MAO
CU Tau	58107.638	0.002	I	c	0.0177	MAO
GW Tau	58109.6763	0.0003	I	c	−0.0011	MAO
V1121 Tau	58063.8323	0.003	I	BVI	−0.0009	DBO
V1241 Tau	58073.7999	0.0007	II	BVI	−0.0002	DBO
V1241 Tau	58101.7905	0.0004	II	BVI	−0.0008	DBO
V1241 Tau	58109.6081	0.0003	I	BVI	−0.0043	DBO
X Tri	58062.7342	0.0001	I	R	−0.0016	MAO
CL Tri	58063.7791	0.0002	I	c	0.0013	MAO
XY UMa	58077.9975	0.0001	I	V	−0.0013	MAO
MQ UMa	58083.9512	0.0003	I		0.0035	DBO
V0342 UMa	57806.8894	0.0003	I	c	−0.0104	MAO
V0354 UMa	57847.7377	0.0002	II	c	0.005	MAO
G3807-0759 UMa	57817.6387	0.0004	II	V	−0.0009	MAO
RU UMi	57832.8136	0.0001	I	R	0.0011	MAO
V0496 Vul	57864.9113	0.0002	I	c	−0.0016	MAO

Remarks:

To save space, GSC star names have been shortened to a leading "G" only; times of minimum are heliocentric Julian dates with the leading 24 removed.

$O-C$ values were computed using elements computed from the $O-C$ database listed in the references (Nelson, 2016).

The newly-opened observatory, Desert Blooms in Benson AZ, is described in Nelson (2017).

Acknowledgements:

Thanks are due to Environment Canada for the website satellite views (see reference below) that were essential in predicting clear times for observing runs in this cloudy locale. Thanks are also due to Attilla Danko for his Clear Sky Charts, (see below). This research has made use of the SIMBAD database, operated at CDS, Strasbourg, France.

References:

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